

REMARKS

Claims 11 and 14-16 are pending. Claims 1-10, 12-13 and 17-64 were previously cancelled.

Rejection under 35 U.S.C. § 102

Claims 11 and 14-16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Janjic *et al.* ("U.S. Patent No. 6,229,002).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. M.P.E.P. § 2131. The elements must also be arranged as required by the claim. M.P.E.P. § 2131. Furthermore, the identical invention must be shown in as complete detail as is contained in the claim. M.P.E.P. § 2131.

Independent claim 11, and the claims that depend therefrom, are directed to an aptamer comprising a first nucleic acid sequence that binds to a first target and a second nucleic acid sequence that binds to a second target, wherein the second sequence is an immunostimulatory CpG motif that stimulates an immune response, wherein the CpG motif comprises the formula rCGyy, wherein "r" is a purine, "C" is cytosine, "G" is guanosine and "y" is a pyrimidine, and wherein the first sequence binds to a first target selected from the group consisting of PDGF, IgE, IgE Fcε R1, CD22, TNF-alpha, CTLA4, PD-1, PD-L1, PD-L2, FcRIIB, BTLA, transmembrane protein containing immunoglobulin and mucin-like domains (TIM-3), CD11c, B lymphocyte activating factor (BAFF), B7-X, CD19, CD20, CD25 and CD33.

Janjic *et al.* ("Janjic") disclose a method for preparing a complex comprised of a platelet derived growth factor (PDGF) nucleic acid ligand and a non-immunogenic, high molecular weight compound or lipophilic compound by identifying a PDGF nucleic acid ligand by SELEX

methodology and associating the PDGF nucleic acid ligand with a non-immunogenic, high molecular weight compound or lipophilic compound. Janjic further discloses complexes comprising one or more PDGF nucleic acid ligands in association with a non-immunogenic, high molecular weight compound or lipophilic compound.

The claims require that the aptamer contain a first nucleic acid sequence that binds to a first target and a second nucleic acid sequence that binds to a second target. On the other hand, the aptamer in Janjic only contains a first nucleic acid sequence, SEQ ID NO: 83, that binds to a first target, PDGF. The 5'-GCGTT-3' sequence within SEQ ID NO: 83 is part of the first nucleic acid sequence that binds to PDGF, and is not a second nucleic acid sequence that binds to a second target, as there is no disclosure in Janjic that the 5'-GCGTT-3' sequence within SEQ ID NO: 83 would actually bind to any target other than PDGF. As a result, Janjic does not disclose each and every element of the claimed invention.

In addition, the claims require that the rCGyy CpG motif bind to a second target and, upon binding to the second target, stimulate an immune response. However, there is no disclosure in Janjic that the 5'-GCGTT-3' sequence within SEQ ID NO: 83 would actually bind to any target other than PDGF or that the cited sequence would bind to such target and stimulate an immune response. The presence of a shorter oligonucleotide sequence within a larger oligonucleotide molecule alone is not dispositive of the ability of that shorter oligonucleotide sequence to bind to a given target. As there is no teaching in Janjic regarding a CpG element, it cannot be assumed that the sequence cited by the examiner would bind to a target and stimulate an immune response.

Furthermore, Janjic does not disclose aptamers containing CpG motifs and the benefits derived from having an immunostimulatory CpG motif. Even though the aptamer in Janjic

contains a nucleotide sequence that corresponds to the CpG motif in applicants' claims, Janjic still fails to mention CpG motifs in general and the specific motif in applicants' claims. Therefore, Janjic does not disclose each and every limitation of the claimed invention as arranged in the claim.

As discussed in *Net Moneyin, Inc. v. Verisign, Inc.* (CAFC 2008), the hallmark of anticipation is prior invention. Unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102. Applying this case to Janjic, Janjic does not disclose aptamers containing CpG motifs in general, the specific CpG motif in applicants' claims and the benefits derived from having an immunostimulatory CpG motif so Janjic does not show applicants' invention as arranged in the claim. By definition, Janjic cannot anticipate the claimed invention. Accordingly, withdrawal of this rejection under 35 U.S.C. § 102(b) is respectfully requested.

In addition, the cited reference does not inherently anticipate the claimed invention. Something is inherent in the prior art if it is a necessary and inevitable consequence of the disclosure in a prior art reference. As stated previously, there is no disclosure in Janjic that the cited sequence within the PDGF nucleic acid ligand would actually bind to any target other than PDGF or that the cited sequence would bind to such target and stimulate an immune response. The presence of a shorter oligonucleotide sequence within a larger oligonucleotide molecule alone is not dispositive of the ability of that shorter oligonucleotide sequence to bind to a given target. In other words, the presence of the cited sequence within the PDGF nucleic acid ligand

does not lead to the necessary and inevitable result of stimulating an immune response.

Accordingly, Janjic does not inherently anticipate the claimed invention.

CONCLUSION

Applicants submit that claims 11 and 14-16 are in allowable form. Accordingly, reconsideration of the rejection and allowance of the claims at an early date are earnestly solicited.

If there are any questions regarding this Response or if the undersigned can be of assistance in advancing the application to allowance, please contact the undersigned at the number set forth below.

Respectfully submitted,



Michael G. Biro, Reg. No. 46,556
Sr. Patent Attorney
Archemix Corp.
300 Third Street
Cambridge, MA 02142
Direct: (617) 475-2324
Main: (617) 621-7700
Fax: (617) 621-9300

Jennifer A. Karnakis, Reg. No. 53,097
Attorney for Applicants
c/o MINTZ, LEVIN
One Financial Center
Boston, MA 02111
Direct: (617) 348-1618
Main: (617) 542-6000
Fax: (617) 542-2241
Customer No. 69262